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EDICT OF GOVERNMENT



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COMESA 007 (2004) (English): Standard for
Quick Frozen Blocks of Fish Fillet, Minced
Fish Flesh and Mixtures of Fillets and Minced
Fish Flesh



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COMESA HARMONISED
STANDARD

COMESA/FDHS
007:2004

**Standard for Quick Frozen Blocks of Fish
Fillet, Minced Fish Flesh and Mixtures of
Fillets and Minced Fish Flesh**

**CODEX STANDARD FOR QUICK FROZEN BLOCKS OF
FISH FILLET, MINCED FISH FLESH
AND MIXTURES OF FILLETS AND MINCED FISH FLESH**

CODEX STAN 165-1989 (REV. 1 - 1995)

1 Scope

This standard applies to quick frozen blocks of cohering fish flesh, prepared from fillets¹ or minced fish flesh or a mixture of fillets and minced fish flesh, which are intended for further processing.

2 Description

2.1 Product definition

2.1.1 Quick frozen blocks are rectangular or other uniformly shaped masses of cohering fish fillets, minced fish or a mixture thereof, which are suitable for human consumption, comprising:

- (i) a single species; or
- (ii) a mixture of species with similar sensory characteristics.

2.1.2 Fillets are slices of fish of irregular size and shape which are removed from the carcass by cuts made parallel to the back bone and pieces of such fillets, with or without the skin.

2.1.3 Minced fish flesh used in the manufacture of blocks are particles of skeletal muscle which have been separated from and are essentially free from bones, viscera and skin.

2.2 Process definition

The product after any suitable preparation shall be subjected to a freezing process and shall comply with the conditions laid down hereafter. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete unless and until the product temperature has reached -10°C or colder at the thermal centre after thermal stabilization. The product shall be kept deep frozen so as to maintain the quality during transportation, storage and distribution. Industrial repacking or further processing of intermediate quick frozen material under controlled conditions which maintain the quality of the product followed by the reapplication of the quick freezing process is permitted. These products shall be processed and packaged so as to minimize dehydration and oxidation.

2.3 Presentation

Any presentation of the product shall be permitted provided that it:

¹ Including pieces of fillets.

2.3.1 meets all requirements of this standard, and

2.3.2 is adequately described on the label to avoid confusing or misleading the consumer.

2.3.3 Blocks may be presented as boneless, provided that boning has been completed including the removal of pin-bones.

3 Essential composition and quality factors

3.1 Fish

Quick frozen blocks shall be prepared from fillets or minced flesh of sound fish that are of a quality fit to be sold fresh for human consumption.

3.2 Glazing

If glazed, the water used for glazing or preparing glazing solutions shall be of potable quality or shall be clean sea-water. Potable water is fresh-water fit for human consumption. Standards of potability shall not be less than those contained in the latest edition of the WHO "International Guidelines for Drinking Water Quality". Clean sea-water is sea-water which meets the same microbiological standards as potable water and is free from objectionable substances.

3.3 Other ingredients

All other ingredients used shall be of food grade quality and conform to all applicable Codex standards.

3.4 Decomposition

The products shall not contain more than 10 mg/100 g of histamine based on the average of the sample unit tested. This shall apply only to species of *Clupeidae*, *Scombridae*, *Scombresocidae*, *Pomatomidae* and *Coryphaenidae* families.

3.5 Final product

Products shall meet the requirements of this standard when lots examined in accordance with Section 9 comply with the provisions set out in Section 8. Products shall be examined by the methods given in Section 7.

4 Food Additives

Only the use of the following additives is permitted.

Additive	Maximum Level in the Final Product
Moisture/Water Retention Agents	
339(i) Monosodium orthophosphate	
340(i) Monopotassium orthophosphate	
450(iii) Tetrasodium diphosphate	
450(v) Tetrapotassium diphosphate	
451(i) Pentasodium triphosphate	
451(ii) Pentapotassium triphosphate	
	10 mg/kg expressed as P ₂ O ₅ , singly or in combination (includes natural phosphate)

452(i) Sodium polyphosphate 452(v) Calcium, polyphosphates 401 Sodium alginate	GMP
Antioxidants 300 Ascorbic acid 301 Sodium ascorbate 303 Potassium ascorbate	GMP
304 Ascorbyl palmitate	1 g/kg
In Minced Fish Flesh Only Acidity Regulator 330 Citric acid 331 Sodium citrate 332 Potassium citrate	GMP
Thickeners 412 Guar gum 410 Carob bean (Locust bean) gum 440 Pectins 466 Sodium carboxymethyl cellulose 415 Xanthan gum 407 Carrageenan and its Na, K, NH ₄ salts (including Furcelleran) 407a Processed <i>Eucheuma</i> Seaweed (PES) 461 Methyl cellulose	GMP

5 Hygiene and handling

5.1 The final product shall be free from any foreign material that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission, the product:

(i) shall be free from microorganisms or substances originating from microorganisms in amounts which may represent a hazard to health in accordance with standards established by the Codex Alimentarius Commission;

(ii) shall not contain histamine that exceeds 20 mg/100 g in any sample unit. This applies only to species of *Clupeidae*, *Scombridae*, *Scombresocidae*, *Pomatomidae* and *Coryphaenidae* families;

(iii) shall not contain any other substances in amounts which may represent a hazard to health in accordance with standards established by the Codex Alimentarius Commission.

5.3 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 3-1997) and the following relevant Codes:

(i) The Recommended International Code of Practice for Frozen Fish (CAC/RCP 16-1978);

(ii) The Recommended International Code of Practice for Frozen Battered and/or Breaded Fishery Products (CAC/RCP 35-1985);

(iii) The Recommended International Code of Practice for Minced Fish Prepared by Mechanical Separation (CAC/RCP 27-1983).

(iv) The Recommended International Code of Practice for the Processing and Handling of Quick Frozen Foods (CAC/RCP 8-1976). (v) The sections on the Products of Aquaculture in the Proposed Draft International Code of Practice for Fish and Fishery Products (under elaboration)²

6 Labelling

In addition to the provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev. 3-1999) the following specific provisions apply;

6.1 The name of the food

6.1.1 The name of the food shall be declared as "x y blocks" in accordance with the law, custom or practice of the country in which the product is distributed, where "x" shall represent the common name(s) of the species packed and "y" shall represent the form of presentation of the block (see Section 2.3).

6.1.2 If the product has been glazed with sea-water, a statement to this effect shall be made

6.1.3 The name "quick frozen", shall also appear on the label, except that the term "frozen" may be applied in countries where this term is customarily used for describing the product processed in accordance with subsection 2.2 of this standard.

6.1.4 The proportion of mince in excess of 10% of net fish content shall be declared stating the percentage ranges: 10-25, >25-35, etc. Blocks with more than 90% mince are regarded as mince blocks.

6.1.5 The label shall state that the product should be maintained under conditions that will maintain the quality during transportation, storage and distribution.

6.2 Net contents (Glazed blocks)

Where the food has been glazed, the declaration of net contents of the food shall be exclusive of the glaze.

6.3 Storage instructions

The label shall include terms to indicate that the product shall be stored at a temperature of -10°C or colder.

6.4 Labeling of non –retail containers

Information specified above shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer or packer as well as storage instructions, shall appear on the container. However, lot identification,

² The Proposed Draft Code of Practice, when finalized, will replace all current Codes of Practice for Fish and Fishery Products

and the name and address of the manufacturer or packer may be replaced by an identification mark provided that such mark is clearly identifiable with the accompanying documents.

7 Sampling, Examination and analysis

7.1 Sampling

(i) Sampling of lots for examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) CAC/RM 42-1969. For prepackaged goods the sample unit is the entire container. For products packed in bulk the sample unit is at least 1 kg of fish sticks (fish finger), fish portions or fillets.

(ii) Sampling of lots for examination of net weight shall be carried out in accordance with an appropriate sampling plan meeting the criteria established by the CAC.

7.2 Determination of net weight

The net weight (exclusive of packaging material) is determined on each whole primary container of each sample representing a lot and shall be determined in the frozen state.

7.3 Sensory and physical examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with procedures elaborated in Sections 7.4 through 7.7, Annex A and the *Guidelines for the Sensory Evaluation of Fish and Shellfish in Laboratories (CAC/GL 31 - 1999)*.

7.4 Estimation of fish core

According to A.O.A.C. Method 996.15.

7.5 Determination of gelatinous conditions

According to the AOAC Methods - "Moisture in Meat and Meat Products, Preparation of Sample Procedure"; 983.18 and "Moisture in Meat" (Method A); 950.46; AOAC 1990.

7.6 Estimation of proportion of fish fillets and minced fish flesh

See Annex B.

7.7 Cooking methods

The frozen sample shall be cooked prior to sensory assessment according to the cooking instructions on the package. When such instructions are not given, or equipment to cook the sample according to the instructions is not obtainable, the frozen sample shall be cooked according to the applicable method(s) given below:

Use procedure 976.16 of the A.O.A.C. (15th Edition 1990). It is based on heating product to an internal temperature of 65-70°C. Cooking times vary according to size of product and equipment used. If determining cooking time, cook extra samples, using a temperature measuring device to determine internal temperature.

8 Definition of defectives

The sample unit shall be considered defective when it exhibits any of the properties defined below:

8.1 Foreign matter (cooked state)

The presence in the sample unit of any matter which has not been derived from fish (excluding packing material), does not pose a threat to human health, and is readily recognized without magnification or is

present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

8.2 Bones (cooked state) (in packs designated boneless)

More than one bone per kg greater or equal to 10 mm in length, or greater or equal to 1 mm in diameter; a bone less than or equal to 5 mm in length, is not considered a defect if its diameter is not more than 2 mm. The foot of a bone (where it has been attached to the vertebra) shall be disregarded if its width is less than or equal to 2 mm, or if it can easily be stripped off with a fingernail.

8.3 Odour and flavour (cooked state)

A sample unit affected by persistent and distinct objectionable odour and flavours indicative of decomposition, or rancidity or of feed.

8.4 Flesh abnormalities

Objectionable textural characteristics such as gelatinous conditions of the fish core together with greater than 86% moisture found in any individual fillet or sample unit with pasty texture resulting from parasites affecting more than 5% of the sample unit by weight.

9 Lot acceptance

A lot shall be considered as meeting the requirements of this standard when:

- (i) the total number of defectives as classified according to Section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1977);
- (ii) the average percent fish flesh of all sample units is not less than 50% of the frozen weight;
- (iii) the average net weight of all sample units is not less than the declared weight, provided there is no unreasonable shortage in any container; and
- (iv) the Food Additives, Hygiene and Labelling requirements of Sections 3.3, 4, 5.1, 5.2 and 6 are met.

ANNEX A

Sensory and physical examination

The sample used for sensory evaluation should not be the same as that used for other examinations.

1. Complete net weight determination, according to defined procedures in Section 7.2.
2. Complete fish core determination on one set of the sample units according to defined procedures in Section 7.4.
3. Complete the estimation of the proportion of fillets and minced flesh, if required.
4. Cook the other set of sample units and examine for odour, flavour, texture, foreign matter, and bones.
5. In cases where a final decision on gelatinous conditions cannot be made in the thawed uncooked state, the disputed material is sectioned from the product and gelatinous condition confirmed by cooking as defined in Section 7.7 or by using the procedure in Section 7.5 to determine if greater than 86% moisture is present in any product unit. If a cooking evaluation is inconclusive, then procedure in 7.5 would be used to make the exact determination of moisture content.

ANNEX B

Estimation of proportion of fish fillets and minced fish flesh (West European Fish Technologists Association - WEFTA Method)

a) Equipment

Balance, sensitive to 0.1 g

Circular sieve - 200 mm diameter, 2.5 or 2.8 mesh opening (ISO) soft rubber edge (or blunt) spatula, forks, suitable sized plates, water tight plastic bags.

b) Preparation of Samples

Fish Portions/Sticks: Take as many portions as needed to provide a fish core sample of about 200g (2kg). If breaded and/or battered first strip coating according to the method described in section 7.4.

c) Determination of Weights "A" of the Frozen Fish Samples

Weight the single fish portions/decoated fish cores while they are still frozen. Smaller portions are combined to a sample sub-units of about 200 g (e.g. 10 fish sticks of about 20 g each). Record the weight "A" of the sub-units. Place the pre-weighed sample sub-units into water tight bags.

d) Thawing

Thaw the samples by immersing the bags into a gently agitated water bath of about 20°C, but not more than 35°C.

e) Draining

After thawing has been completed (duration about 20-30 min.) take each sample unit, one at a time, and drain the exuded fluid (thaw drip) for 2 minutes on a pre-weighed circular sieve inclined at an angle of 17-20 degrees. Remove adhering drip from the bottom of the sieve by use of a paper towel when draining is completed.

f) Determination of weight "B" of the Drained Fish Sample "B" - sieve plus fish minus sieve weight. The difference of "A" - "B" is the weight of exuded fluid - thaw drip.

g) Separation

Place the drained fish core on a plate and separate the minced flesh from the fillet using a fork to hold the fillet flesh and a soft, rubber edge spatula to scrape off the minced flesh.